

# TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

STATE OFFICE

STILLWATER, OKLAHOMA 74074

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## PLANT SCIENCE TECHNICAL REFERENCES - FOR IN SERVICE USE ONLY

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AGRONOMY - OK- 6

August 5, 1975

Re: Cool Season Pastures in Oklahoma

There are several uses for cool season pastures, one of which is an excellent source of protein. Another use is for the replacement of hay and also a reduction of the labor needed to maintain a winter cow herd.

### Established Tall Fescue

The timing and rates of nitrogen fertilization on an established tall fescue pasture are critical to its production: A late August-early September application of at least 50 pounds of actual nitrogen per acre will promote growth during September, October, and November. If this growth is allowed to accumulate during the fall, it makes excellent feed during the midwinter months of December, January, and February. With adequate moisture and fertility, growth should resume in March and allow grazing to continue until bermudagrass is ready to graze again.

If a good stand of clovers is maintained with the fescue, the spring nitrogen fertilization could be reduced or eliminated. Clovers will also improve the quality of the available forage, which is important when the producer is grazing stocker animals. If clovers are not maintained in tall fescue, then an application of at least 50 pounds of actual nitrogen per acre in February will promote the spring growth. Naturally, the phosphorus and potassium requirements must be met and these can be determined with a soil test every 2 or 3 years. In many cases, annual applications of phosphorus and potassium will be necessary.

### Fescue-Bermuda Mixtures

Many livestock producers now have both tall fescue and bermudagrass in the same pasture. The timing of the fall nitrogen application could be different than with a solid fescue pasture.

If the need is to stimulate fescue growth without promoting excessive bermuda growth, 50 pounds of nitrogen per acre should be applied during the last half of September.

An earlier application of nitrogen will stimulate growth with less nitrogen available for subsequent growth. This is not entirely undesirable as the bermuda growth will be relatively high quality.

AC  
DC

#### Clean-tilled Small Grain Forage Production

The first thing to do in any forage program is to have a soil test to determine pH, phosphorus and potassium levels of the soil. Without a valid soil test, a producer could be underfertilizing or overfertilizing with phosphorus and potassium.

During the final seedbed preparation in August the necessary nitrogen, phosphorus, and potassium should be worked into the seedbed. These rates could vary considerably according to the location within Oklahoma and the previous fertility practices carried out on the field to be established to small grains. This is why it is important to have a soil test.

The small grains should be drilled in a firm seedbed sometime in early September, as soon as the temperatures have started to cool just a little and moisture conditions are adequate. Several choices exist for the cool season pasture to be planted. These are rye, rye-wheat mixture, and rye-ryegrass mixture. Each of these has the option of having vetch or tall fescue added to the mixture. Rye should be included in any of these mixtures and probably be the dominant species because of the additional fall production obtained from rye as compared to wheat, oats, or barley. Bonel and Elbon rye are two varieties which have proven to be excellent forage producers. Agent wheat is one of the higher forage-producing wheats although many of the wheats commonly used for grain production may also be used.

For maximum fall production, the small grains should not be grazed until after December 1 or even later if other quality forage is available to the livestock. If moisture is adequate, rye will make some growth any time the daytime temperatures go above 60 degrees. The nitrogen applied at establishment may not be sufficient to obtain optimum growth of the small grain forage during the spring of the year. An additional application of actual nitrogen should then be top-dressed on the small grain during January or February. This allows the nitrogen to be there any time moisture and temperature conditions allow growth.

#### Small Grains in Bermuda Sod

Probably the safest way to establish small grains in bermudagrass sod is to wait until mid-October to drill 100 pounds of seed per acre. This should be done in a closely grazed sod. With this system, it is important to drill a complete fertilizer containing about 20 pounds each of nitrogen, phosphorus, and potassium with the seed. The topdressing of additional nitrogen could be done during January or February so nitrogen will not be a limiting factor any time growing conditions are favorable for the small grains.

A cattleman should not expend forage production until mid-March, April, and May with this system. Under very favorable conditions any grazing before that should be classed as a bonus. With October sod-seeded small grains, forage production will be reduced about 40 percent compared with cleantilled small grain forage production.

### Rotation Grazing

There are several reasons for using rotation grazing with high-production pastures. Rotation grazing is well adapted to both warm season and cool season pastures. For the cool season pasture rotation grazing plan, three or four pastures should be utilized. This allows a livestock producer to concentrate enough cattle on one smaller pasture to force uniform utilization of the forage and to reduce the amount of trampling. It also gives the plants in a previously grazed pasture a chance to recover and to resume growth,

Plants which have been grazed once and try to regrow are the most tender and palatable plants within a pasture. Animals have a tendency to go back to those more palatable plants and graze them repeatedly. Once this spot grazing is started, it usually continues as long as there is any regrowth.

The amount of time that cattle remain-on any one pasture in a rotation grazing plan will depend upon the number of acres within that pasture and the number of cattle. If forage has been accumulated during the fall of the year, concentrating the cattle on a portion of the small grain forage or tall fescue growth will allow the remaining pasture to continue to accumulate growth as weather conditions permit.

/s/Hampton Burns

Hampton Burns  
State Conservationist